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ABSTRACT

The child approaching reading for the first time comes well-equipped with developmental tools to lighten the task. Linguistically speaking, in addition to some decoding skills, the child has a full-blown syntactic system consisting of the basic syntactic forms, though some of the more intricate forms will not be mastered until much later. Vocabulary is extensive and concepts are well developed. Furthermore, the child has developed a large network of schemata through varied experiences and has learned to make inferences. It is also possible that the young child has some acquaintance with and understanding of nonliteral uses of language such as metaphor. It is incumbent on teachers to keep in mind the close relationship of language and thought and to constantly ensure that one does not overtake the other. Consequently teachers should (1) integrate reading with other activities and projects, (2) be familiar with the students' level of understanding of a given topic so he or she may suggest ways to enrich children's conceptual and associative networks, (3) be willing to clarify and expand on children's statements, (4) use the language experience approach to effect a smooth transition from speech to print, (5) be alert to the possibilities for promoting the syntactic sophistication of students, and (6) keep a balanced perspective against the normative forces of the school in favor of the recognition of individual differences. (HOD)

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Language Development Factors Related to Reading Development

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Fads in education come and go, and today's catchwords rapidly become tomorrow's clichés. A quarter of a century ago we found ourselves in the era of the "whole child." For some reason that term became associated with certain educational methods that went out of favor and, as a consequence, to talk about the whole child was considered passé. Today, in spite of the fact that we live in an age of compartmentalization and specialization, I see signs that educators are gaining a new appreciation for the child as an integrated human being, in whom the varied interplay of cognition and affect, physical well-being and self-esteem, attitudes and performance must be dealt with if children are to realize even a fraction of their full potential.

School is an area that seems to be particularly prone to compartmentalization. Children are separated into grades by age, although we know that the range of ability in any given grade is about the number of years of that grade. Subjects are compartmentalized, taught by different people, and each assigned to its little segment of time. We are then surprised to find that children do not make generalizations or cross interdisciplinary boundaries. At higher education levels, of course, the compartmentalization translates into complete failure to communicate across disciplines into denigration of each other's methodologies, and even into turf wars.

I mention this state of affairs because it seems to apply also to the areas of language and reading. But these are not different fields that need to be brought together. They are part and parcel of the same natural phenomenon: language. There are two modes of language, reception and

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production, and there are two modalities in which each mode may be expressed, using an oral or a graphic code. A two-by-two table illustrates this point:

	oral code	graphic code
receptive	listening	reading
productive	speech	writing

In the receptive mode, listening precedes reading and in the productive mode speech precedes writing. The reason seems to be that imposing a graphic code on what is already known makes the language process more difficult.

It is not so easy to determine the relative difficulty of the receptive and productive modes. Reception and production are not equal in difficulty. In general we think of production as being much more difficult, for example, it is much harder to compose a letter than to read one. However, this is not always the case. A few years ago, I started to learn American Sign Language, and found it relatively easy to produce a few halting sentences in a combination of signs and finger spelling. The real test came when people started to answer in ASL. Their hands moved rapidly, but only an occasional sign was intelligible to me. You may have had the same experience if you learned a smattering of a foreign language and then travelled to the country where it is spoken. Someone once described hearing the speech of Spanish-speaking people conversing with one another as being like "typewriters." I thought it more like machine guns, but both analogies make the same point; in these instances, reception is more difficult than production.

We normally expect skills to occur in a developmental sequence based on order of difficulty, but actually it is the aspects of language that lack a graphic code that occur first, namely, listening and speech. When the skills

of reading and writing become automated, then it is the difficulty of the content that seems to determine the difficulty of the process, rather than the mode (reception vs. production) or modality (using an oral or a graphic code). As children become more fluent in reading, there seems to be a shift in favor of the visual, and this, in turn, may make reading a lecture, for example, much easier than listening to it. We are not sure whether all children gradually shift from an auditory to a visual preference, or whether some remain predominantly auditory, though this issue may be important for teaching foreign languages, for example. The fact that these relationships change does seem to suggest that there is some interplay among the various aspects of language (Bullock, 1975).

Actually, I would go further than saying that the four aspects of language are simply interrelated, or mutually dependent, and maintain that the reason for their interdependence lies in their common root, the search for meaning. It is our nature to expect things out there in the world to make sense, to follow certain rules, to conform to our expectations. When they don't, we either seek an explanation that satisifes our need for order and consistency, or we do something to the information to force it into a form we can deal with. We are all bending information to suit our predilections much more than we think. It is this realization that has forced psychologists to develop what is now known as the cognitive movement. The basic premise of cognitive psychology is that knowledge is not a simple reproduction of what is perceived, but an active construction in which what is previously known, what is believed, and what is expected all influence what is perceived. The perceiver. in short, behaves more like a portrait painter than a photographer. Every time we open our eyes and ears, every time we look, or listen,

or taste, or smell, we bring to bear on that simple act all our previous experience packaged in the form of beliefs, attitudes and expectations. When we fail to see what we expect to see, we look again to make sure that we are "seeing right." If the information still appears unusual or discrepant, we can (a) accept it at face value and change our beliefs accordingly, (b) modify, or even distort the information to make it fit what we believe, or (c) ignore it altogether by forgetting or repressing, or discounting it as unimportant. These are all tricks that we have perfected and that we employ in order to keep our world orderly and therefore predictable and safe. We all tacitly recognize this fact about ourselves, as may be seen in such oft-heard phrases as "It's the uncertainty I can't stand" or "Anything's better than not knowing."

Now this ability or predilection we have for imposing meaning on our world is not a characteristic we acquire with maturity. It is with us from the very start. The baby does not lie there passively waiting for experiences to happen, but is busy during all waking hours actively, if unconsciously, making sense of the surrounding environment. Actually the baby is not as ill-equipped to do this as we used to think. You may remember that William James characterized the baby's world as one "booming, buzzing confusion." Today, thanks to some of the infancy research, we know that even very young babies can perceive a number of regularities and can make certain important discriminations, for example, between the human face and other stimuli. Nature seems to equip the newborn with the ability to pay attention to what is important for the species. This is not to underemphasize the magnitude of the task confronting the baby, but simply to point out that s/he is not entirely helpless and without incipient skills for dealing with this world.

The major task of infancy, then is to construct the world by identifying its regularities and recurring features and by determining what is critical to survival and what is not. Developmental psychologists of whatever persuasion recognize this fact, though they couch it in different terminology. Piaget says that the infant's task is to learn about object permanence and to develop schemata. By this he/she means that the infant must learn to separate the continuum of stimuli into groupings which have object names, such as "ball" and "rattle," and must also develop a classification scheme, however rudimentary, that includes several objects and a sequence of actions, e.g. eating. Erikson, by contrast, talks about the baby's need to establish "patterns of basic trust over mistrust," by which he means not simply the trust of one person in another, but rather the confidence that accompanies the realization of patterns of regularity in the environment, whether they be the rhythm of light and darkness, the appearance of food and satisfaction when one is hungry, or the friendly and reassuring presence of the mother when one is uncomfortable or when one is feeling sociable.

What, you may be asking, has all this to do with language and learning to read? I have dwelt on the constructive nature of our experience because I want to emphasize that it is a continuity, a predominant aspect of our existence, and one that has considerable relevance for reading. Language, it seems fair to say, has its roots in these early experiences of making sense of the world around us. I would not say that language stimuli are just like any other stimuli, in fact they appear to be one of the kinds of stimuli to which the infant seems predisposed to pay attention. Human beings, including their speech, have particular salience for the infant, who thus makes special effort to determine the meaning or intention of all that sound proceeding from the adult's mouth. This is the cognitive basis of language, and therefore, the

cognitive basis for listening, speech, reading, and writing, all of which make use of symbols and in due course, of what Piaget calls "operational thought."

In this paper, I propose to do four things: (1) analyze the task of learning to read; (2) inquire what tools the child has to attack this task; (3) examine the ways these tools change as a function of development and experience, and (4) discuss what the classroom teacher can do (a) to help the child apply these tools, and (b) to help these tools to develop and grow. By "tools" I mean any skill, ability, or predisposition the child may have that is relevant to the act of reading.

(1) Analysis of the Reading Task

Reading is an activity that involves extracting meaning from print and assimilating that meaning to one's existing store of information. This definition differs from the commonly accepted definitions that separate reading from thinking and that, in essence, seems to mean casting one's eyes over the print and decoding the words. In common parlance it makes perfect sense to say "I read it, but I didn't understand it" or (as I have heard some proud parents claim) "My five-year-old can read anything." On the other hand, when a student arrives in school claiming that he has read a book but can answer no questions about its content, we are liable to conclude that he has not really read it. So the common definition seems to fluctuate between regarding comprehension as a necessary component of reading or as a desirable aspect superimposed on the basic process. I think this ambivalence has been a source of confusion for teachers, and has led to an inordinate emphasis on decoding aspects of reading at the expense of what to me is the heart of the matter, comprehension. Throughout our discussion, then, let us keep clearly in mind the ultimate goal of reading, so that we never lose sight of it, even when the matter we are

talking about may seem far removed from the extraction of meaning. What are the components or factors in early reading, or put another way, what does the child need to have or be able to do in order to read? First and foremost, I would say experience. We cannot make sense of something we have not experienced. The old philosophers used to put it this way: "Nothing is in the mind which was not first in the senses." "But," you may say, "I can read about Alaska or the Falkland Isles and understand what I am reading even though I have never been to those places." You would not be able to do so, however, if you had not had experience of places like those, so that you can extend your imagination beyond what you have experienced. How would you describe an avocado to someone who had never seen or tasted an avocado? "Well," you might say, "It's green (assuming that the person knows about colors), it's the fruit of a tropical American tree (imagine the background knowledge needed to understand that sentence), and you use it in salads (presumably the person has eaten salads) or to make dip" (and knows what dips are made for). Without belaboring the point, it seems fair to say that our understanding is bounded by the limits of our concrete experience, and that it is only to the extent that we have had such concrete experience that we can begin to extrapolate and build on this concrete knowledge base by means of new generalizations, logical operations, or feats of imagination. Teachers pay lip service to the need for concrete experience but, while they accept the general principle, it is very easy to forget in specific cases that a particular child may not have had the requisite experience to fully understand the topic under discussion. Especially as children proceed up the grades, the content of their schooling (I won't say "learning") rapidly becomes more abstruse and complex, relying more and more on abstractions. There is nothing wrong with this, of course.

Children have a great deal to learn, and they must learn to think in terms of propositions and symbols. On the other hand, the wise teacher consistently probes the extent and depth of the child's understanding and builds links back to the concrete by use of examples and illustrations. In kindergarten and first grade, such probing is an absolute necessity. We simply cannot assume a commonality of experience among children coming from a broad diversity of ethnic and social backgrounds.

The experiential background is important because the reader uses prior knowledge to make sense of the text. In all our experience, we are unconsciously making predictions about what we will find "around the bend." We have observed the transformations of nature and learned about natural laws in our science lessons. We have observed the behavior of human beings and been led to make certain generalizations of our own. In a sense we are walking bundles of expectations, though we don't go around consciously articulating these expectations. Only when they are violated are we surprised enough to remark on the fact and to speculate about the reasons for the irregularity. Reading is no different in this respect. We sit down to read a book with very definite expectations, and we express our displeasure (or occasionally delight) if these expectations are not met. The child too expects what is being read to follow certain conventions both in terms of content and structure. As you probably know, several researchers in the past seven or eight years have demonstrated that even four- and five-year-old children have well-formed ideas about the necessary components of a story, as well as the order in which these components typically appear (Stein and Glenn, 1979). There has been little corresponding research on their expectations about content or about the language in which stories should be couched.

The second factor which is necessary to reading comprehension and is also related to the experiential background, is a large conceptual network. Teachers talk a lot about the importance of word recognition, but there is a large assumption built into the notion of word recognition, and that is that the child has only to recognize the word and it will immediately trigger at the very least the essential meaning of the word but also with any luck a network of associations that give richness and depth to the essential meaning. It is not at all clear that this assumption is always, or even regularly, met. The child may certainly recognize the word. What meaning or associations it conveys is another question. Vocabulary development may be the single most important preparatory step for reading, but it must be true development of the ideas surrounding a concept, and not just learning the dictionary definitions of more and more words. For this reason, vocabulary development conducted prior to reading seems to be more beneficial if the words are studied in context rather than in isolation (Hughes, 1977). By the way, concepts includes more than nouns. The child must learn certain concepts that Piaget has identified as the cornerstone of thought, difficult concepts, involving spatial and temporal relationships, cause and effect, probability and certainty, physical and psychological reality, and abstract social concepts governing human relations such as morality, justice, democracy, peace and war, and religion. There is good evidence from Piaget's own work and that of his followers (Furth, 1975) that such concepts evolve very slowly and may be improperly understood even by adults.

Third, the child needs the language facility with which to express ideas and ask questions about his experience (Hunter-Grundin, 1978). Although the child learns a great deal about things and their relationships thro_gh

exploratory play and other types of experiences, language before school is learned entirely through discourse with adults or other children. At the infant and toddler stage, language is shaped by adults responding to the child's babbling and later to one- and two-word sentences. With the event of symbolic thought, dialogue with children who are at a slightly more advanced cognitive level becomes the most important vehicle for advancing the child's learning. Piaget believed that the reason for this was that the more advanced child makes remarks that are contrary to the experience of the younger child thus creating cognitive conflict. The resolution of this conflict through questioning or thinking about the matter carries the child forward to a new level of equilibrium or functioning. What Piaget did not mention is that this type of dialogue also takes the child to new levels of language usage, because new terms are learned as well as new ways of expressing both old and new ideas. The other important feature of the situation is that the child's partner must be only slightly ahead; too great a gap and the child will simply be unable to assimilate the new information.

Language is more than concepts, experiences, and vocabulary. In fact, purists might deny that the first two belonged to language at all. They are included in this discussion because they are the undergirding, the sine qua non of language, and continue to be such an inherent part of it that to speak of phonetics and syntax without talking about concepts and the experiential base of language leads to a one-sided discussion. At this point it becomes necessary to recognize that language is a sequential matter and that rules have been devised for its proper use. Many of these rules fall under the rubric of syntax, by which we mean the acceptable ways of stringing language together. There is not complete correspondence between syntax and meaning, for it is possible to frame a sentence that is not syntactical but whose meaning is perfectly clear. On the

other hand, a relationship does exist. Using better syntax may improve the clarity or precision of a message, while excessive violations of syntax may obscure the meaning or even render the sentence meaningless. English is a complex language with a variety of correct ways of using syntax (and even more incorrect ways) in order to achieve the same meaning. It should come as no surprise, then, if children learn these infinite variations only gradually (Athey, 1972), and if many of them are never learned at all. Moreover, there are sometimes subtle differences in meaning between so-called equivalent sentences, for instance between the active version and its passive counterpart. "John hit Mary" implies a deliberate action on the part of John, whereas "Mary was hit by John" suggests that the hitting may have been accidental, that the event "happened," so to speak, to both of them. It is not clear at what developmental level children begin to make these distinctions and to sort out all the complications of the language. Nor do we know at what point they make generalizations from a single instance to a class of similarly structured sentences. Perhaps it would be clearer if syntactic structures were part of the systematic instruction children receive in writing, but I doubt this is the case. No doubt the alert teacher is aware of these subtleties and takes advantage of every occasion that arises to point them out to students.

Semantics is that part of language that has to do with meaning, and we have discussed meanings in the context of young children's acquisition of language. I would now like to talk about meanings in the context of schema theory. Schema can be defined in a number of ways, but probably the most useful way for teachers to think about it is in terms of a script for a mini-play. The most frequently cited example is that of restaurant, as in the sentence "John took Mary to dinner at a restaurant." On hearing this sentence your mind

immediately goes into action. You picture the white tablecloths and the gleaming silverware, the maitre d' and the table for two. If you love Italian food, perhaps you picture the red-checked tablecloths and bottles of Chianti. Perhaps you are so taken by this whole scene that you begin to embroider on it. John and Mary have a long, leisurely dinner with wine. There is music, and elegant people come and go. It is a special occasion, maybe someone's birthday. And at the end there is a fairly substantial bill, and tip, which John, as host, pays. All this we can spin out from the one simple sentence and our schema of restaurant into a detailed and colorful scenario. There are two things that should be noted about schemas. First, they are heavily dependent on prior experience. You could not develop this scenario unless you had had a great deal of experience with restaurants. Second, on the basis of your experience, you are able to make a great many inferences, many of them almost unconsciously. How did you picture John and Mary? Did you make any inferences about their social status, or the way they were dressed? Where do you think the restaurant was located, and how do you think they got there? There is no need to belabor this point except to say that when children hear or read a piece of information such as "John and Mary went to a restaurant," their schemas and the inferences they draw will only be as valid as the experiences on which they are based.

The ability to make inferences is learned through experience and more especially through dialogue. If the two-year-old runs after a bird, and the bird flies away, it is fairly easy after a few tries to make an inductive generalization without assistance from adults (though they never seem to tire of trying to catch birds). Depending on the age of the child, the adult's role is to verify, to articulate, and to expand on what the child is thinking.

This interchange may take the form of a simple statement such as "Birdie fly away" or it may be as complicated as an explanation that one must approach birds quietly and cautiously and that some birds are less timid than others. The parental role in child-adult interaction has been shown to be extremely important. Middle-class mothers may not talk more to their children, but it is the quality of their talk that counts. They confirm or disconfirm the child's utterances, they explain and comment on the scene, and they expand the conversation rather than restrict it. This parental role should also be the role of every teacher of young children. Parents and teachers who exhibit this quality are not only teaching children how to talk, they are teaching them how to think.

Drawing inferences becomes particularly salient when the child begins to read. One reason for this is to be found in the study of pragmatics, which examines the context in which language is transmitted and understood. It has been found that in oral language, comprehension relies heavily on the immediate context in which the statement is made. Because our daily lives consist largely of routine and ritual, we are able to predict much of the discourse that goes on around us, especially if we are familiar with the people and the context in which it is taking place. Domestic animals and prelinguistic children rely entirely on context in order to extract meaning. If you throw a stick and yell, "Fetch," at the same time pointing your arm in the direction of the stick, it doesn't take a particularly astute dog to figure out your intent. Similarly young children, who are vulnerable to the moods of their parents, become very adept at reading nonverbal cues. As the language system develops, children become less dependent on contextual cues, though even as adults, we continue to rely heavily upon them in oral discourse. Reading is at the other end of the spectrum. It is removed from the concrete environment and

placed in a world of its own. The beginning reader is not only coping with an unfamiliar code, but is also trying to extract meaning without the usual contextual clues from the environment.

The final aspect of language to be mentioned is the decoding process. Decoding is usually the first matter to be discussed, not the last, but I have put it at the end deliberately to make a point. Of course, no one discounts the importance of decoding in reading. Try reading print that is too small or a ditto sheet that is too faint. All the hypotheses and expectations in the world won't help if you can't make out the words. On the other hand, reading theorists who are aware of the complexity of the reading process have reacted to the overemphasis on decoding that has characterized much of our reading instruction. The child must learn to decode letters and words, but the learning should take place in contexts that have meaning for him

Although many of our teaching strategies are geared to teaching at the level of the letter or word, the typical reading task involves the integration of the meanings expressed in separate sentences with one another to form a meaningful overall message. In recent years, researchers have begun to focus on properties of text that make for cohesiveness (Halliday and Hassan, 1961) and upon the processes required of the reader to maintain continuity of meaning. One such process, known as anaphoric reference, refers to those forms which are used to refer back to something previously mentioned in the text. Studies have shown that elementary children are not in full control of these anaphoric relationships (Moberly, 1978).

(2) Developmental "Tools"

Our discussion has shown that the young child approaching reading for the first time comes well-equipped with developmental tools to lighten the task.

Even that sentence is misleading, implying as it does that there is a very clear, formal beginning to reading, for which the child has been preparing during the preschool years. I do not think that early reading and writing should be any more formal than early speaking, but should be introduced without fanfare when and as the occasion demands. By first grade, the child should bring to reading not only a wealth of experience, informal training in reasoning, an extensive grasp of the language and its uses, but also familiarity with books and writing implements as communication tools. Some decoding skills will have been acquired informally through parental guidance, so that the child already has the idea that a code is involved. When the circumstances are propitious, the child also understands some of the practical uses of reading and writing. Most important of all, young children have the intrinsic motivation to learn. The teacher does not have to spend time thinking up ways to motivate these children, but ways to capitalize on that boundless enthusiasm and to direct it into constructive learning channels.

Linguistically speaking, in addition to some decoding skills, the child has a full-blown syntactic system consisting of the basic syntactic forms, though some of the more intricate forms will not be mastered until much later. Vocabulary is extensive and concepts are well developed. The child has developed a large network of schemas through varied experiences, and has learned to make inferences. It is also possible that the young child also has some acquaintance and understanding of non-literal uses of language such as metaphor.

For the child who has had a normally caring family and a wealth of opportunities for learning, reading should not present a formidable obstacle. It should be an activity as natural as play or as its linguistic counterparts, speaking and listening.

(3) Changes in Language Factors with Age

Earlier in this discussion we referred to Piaget's thesis that language and thought have their roots in a common origin, the symbolic process. Thereafter, he seems to feel, language and thought develop into two separate, but related, systems. The implication of this separation is tied to the receptive-productive dichotomy introduced in our opening remarks. It means that at any given time in the child's development, language may outstrip thought, or thought may outstrip language. We have clear evidence that this is the case. Psycholinguists who study language development in the young child usually use performance tasks to measure young children's understanding of verbal requests, because their inability to articulate masks their ability to understand what is required of them. Even some highly intelligent adults seem to be quite inarticulate when it comes to expressing their ideas. On the other hand, school instruction relies so heavily on the verbal mode that a few simple probes will disclose that children's understanding of subject material frequently lags far behind their ability to read or reproduce it. Adults also use terms that they do not fully understand, as newspaper and magazine editors sometimes delight in pointing out. It is incumbent on teachers to keep in mind the close relationship of language and thought and to constantly ensure that one does not overtake the other to an undue change.

Piaget suggests that, with the advent of concrete operations around the age of school entry, the child becomes capable of certain mental operations that were not formerly possible. The most important of these is conservation and its reciprocal operation, reversibility. Teachers by this time are familiar with the much-cited experiments on conservation using balls of clay or beakers of water. However, the property of conservation has much wider applications than those pertaining to these simple objects. It refers to time and space and to

other concepts that we have identified as critical to logical thinking. Is it too fanciful to suggest that it is at this stage that the child is ready to understand the "conservation" of language--that the same thing may be said in many ways, or that one may preserve meaning while changing the order of words in a sentence? Not really, because such insights are the early forerunners of metalinguistic awareness, which begins to appear in the elementary years. Metalinguistic awareness means that the child not only uses language appropriately--s/he has been able to do that since the age of two--but also understands the functions and forms of language, and can be objective about his or her own and others' use of language.

As previously noted, human beings are inherently wired to make sense of their world and to impose structure on it, sometimes at the expense of perception matching reality. Children strive to make sense of all their experience, including their experiences with reading. We should not be surprised, therefore, to find that beginning readers look for meaning, even at the expense of distorting what is on the printed page. We should be pleased that this is the case, for it means that reading is not seen by them as an unintelligible, even bewildering, task. However, children cannot go on indefinitely ignoring what is on the page before them. At some point they must begin to touch base with reality. Reality intrudes in the shape of the teacher insisting on decoding skills being used to produce a literal rendition of the text. At this point we find, disconcertingly, that the child seems to abandon the quest for meaning and to make all kinds of errors that are nonsensical in the context of the sentence or passage. Again, we should not be unduly alarmed by this development which, with patience and guidance, will pass. Before the components of a skill become integrated into a smooth performance, it is normal for the learner to

focus on one component and forget about the others. Decoding is difficult. It involves many fine visual discriminations and subsequent integration of the discriminated letters into words. No wonder children experience initial difficulty with the lexical code and temporarily forget all about meaning. As reading becomes more fluent and automatic, children impose their own monitoring system on what they are reading and correct their errors to ensure that meaning is preserved. There is some evidence that this monitoring can be taught, or at least induced, in children (Raphael and Tierney, 1981).

(4) How Can the Classroom Teacher Help?

Let us return briefly to our initial definition of reading as a means of extracting information from print and assimilating that information (old or new) to the existing store of information, and consider what it means for the classroom teacher. First, it suggests that the teacher must never lose sight, nor allow her students to lose sight, of the essential purpose and meaning-giving functions of reading. It is easy to allow oneself to become bogged down in letter and word recognition, in the endless production of worksheets, and in covering 40 pages by the end of the month. How many of these exercises make sense to the child? On the other hand, there are many things that do make sense to the child and can be used as a basis for both reading and writing. This approach also implies that reading and writing are not separate activities cut off from everything else but, on the contrary, should be integrated with other activities and projects. It also starts the child in a pattern of behavior that we expect to see perpetuated into junior and high school. We want our older students to become interested in social and scientific projects, to read and research them, and to write about them, so it seems logical for young children to embed reading and writing in the context of their personal interests.

The second implication that seems to follow from our definition is that teachers need to be very familiar with their students' level of understanding of a given topic. This means assessing not only the students' interest in a topic, but also probing to ascertain the degree of their understanding. We have already pointed out that language can outstrip thought. Having them reproduce something they have heard or read, or asking for verbal definitions without following up on the response with probes, may simply blind the teacher to the students' lack of true understanding. Remember that Piaget came to develop his theory of the growth of childhood intelligence as a result of his dissatisfaction with superficial answers and his development of the follow-up probe. His profound insights into the quality of children's thought might never have come about if he had been willing to accept their responses at face value. Realizing what children currently know about a topic can help the teacher to judge what they are likely to take away from the learning experience, but it will also suggest ways of enriching children's conceptual and associative networks so that there are more mental hooks on which to hang the new information. When the lesson is over, it should also be evident that a new level of equilibrium has been achieved.

Third, we need to re-emphasize the importance of dialogue. As noted earlier, the middle-class child starts school with an enormous advantage, an advantage brought about by the mother's willingness to clarify and expand on the child's statements and to trade ideas with him or her. The teacher should be willing to continue this pattern of responsiveness. Some researchers have suggested that teachers talk too much in the classroom. I think it is that students are not allowed to talk enough, and also that the quality and intent of the talk could be more conducive to learning. Much of the talk is directed

toward keeping discipline or keeping things moving (Duffy, 1981). But calling on the children who know the answers, while creating an air of briskness and efficiency, also glosses over the lack of understanding or misinterpretations of the children who are never called upon. Add to this problem, the implicit value statement on the worth of those children's ideas, and we see that the damage is not confined to the cognitive sphere. Some of the recent naturalistic research is beginning to uncover the hidden events that are taking place in the day-to-day conduct of the classroom (McDermott,). However, our understanding of teaching as a two-way process of verbal communication remains incomplete (Gumperz, 1975)

Fourth, the definition suggests that the oral language patterns of childhood should be used to effect a smooth transition from speech to print. While it is generally conceded by linguists that written language differs from spoken language in certain well-defined ways, such as length of sentence and elaborateness of syntax, research has shown that children understand written passages that approximate their natural discourse than passages that do not (Ruddell, 1965). It also appears that they understand better those passages that approximate their readability level (Smith, 1972-73). Student- and teacher-made reading texts therefore have an intrinsic value which may be missing from basal readers or other commercial materials. In this respect, the language experience approach has a distinct advantage over other methods.

Fifth, the teacher should be constantly alert to the possibilities for promoting the syntactic sophistication of her charges. While we may agree with Chomsky (1972) that the syntactic formulations of the six-year-old in oral language closely approximate those of adults, subsequent research (C. Chomsky, 1972; Hutson and Shub, 1974) suggests that the child has a long

way to go before he is able to understand, much less use some of the more difficult forms. Appreciation of this fact, and an inventory of such forms, can help the teacher to clarify these issues for children whenever the opportunity arises. Again, it is not just a matter of pointing out these forms or correcting the youngster who uses them inappropriately. Like the middle-class parent of the preschooler, the teacher needs to know when and in what ways and to what extent to pursue these teachings. It is this ability to capitalize on and extend the value of the "teachable moment" that makes teaching an art.

Sixth, the teacher needs to keep a balanced perspective against the normative forces of the school and the larger society and in favor of the recognition of individual differences. In the midst of public discussion about illiteracy and failure of the schools to teach even basic skills, it is not easy to retain a cool head. The worst thing that can happen is for the parents' anxiety about their child's reading to communicate itself to the teacher and thence, inevitably, to the child. If reading becomes an emotionally charged issue, the damage may be irreparable. The clinical literature is replete with case studies of children who have become caught in the vicious cycle of failure and anxiety, anxiety and failure. On the other hand, lack of pressure should not be construed as lack of effort or lack of caring. A laissez-faire attitude or a "let's wait for the child to mature" stance will not accomplish the school's mission of teaching children literacy skills. Our entire discussion has clearly indicated that the teacher is continuously working to strengthen the child's knowledge base, conceptual network, and linguistic abilities.

What are the implications of our discussion for the so-called "great debate" about the relative merits of phonics versus other methods of instruction?

The debate seems to have dwindled into a non-issue. Children should not be deprived of the tools to help them break the code, of which phonics is one, word analysis another, and so forth. Some children will need more instruction than others, whereas some bright children may learn phonics without the aid of the teacher. As to the timing of phonics instruction, again, there is no time that is right for every child. The important fact to remember is that at no point should phonics become the be-all and end-all of reading instruction, and should never be emphasized to the exclusion of meaning. Even in phonics teaching, the child can be encouraged to make predictions, and to use what he already knows about spelling patterns to hypothesize what the word might be.

Finally, but most important of all, the teacher must be interested and must care about the progress and the potential of every single child. This means taking the trouble to find out about the child's background, family life, conditions most conducive to the child's learning style, and out-of-school interests. Personalized learning, in the end, is the best learning (Tierney and Pearson, 1980).

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